Accounts of Chemical Research	310	Melanie Huttner
ACS Chemical Biology	310	Jessica Vargas
ACS Nano	311	Nancy Benner
Advanced Drug Delivery Reviews	311	Gabriella Fernandes Cunha
Angewandte Chemie International Edition	N/A	N/A
Bioconjugate Chemistry	N/A	Colin McKinlay
Biomacromolecules	312	Colin McKinlay
Bioorganic and Medicinal Chemistry	313	Nancy Benner
Bioorganic and Medicinal Chemistry Letters	313	Nancy Benner
Chemical Communications	313	Katie Near
Chemical & Engineering News	**MOOK**	Steven Ryckbosch
Chemical Reviews	314	Ryan Quiroz
Chemical Science	**MOOK**	Gabriella Fernandes Cunha
Chemistry, A European Journal	314	Xiaoyu Zang (Janice)
European Journal of Organic Chemistry	316	Samanta Capolicchio
Journal of the American Chemical Society	317	Akira Shimizu (odd)
		N/A (even)
Journal of Medicinal Chemistry	319	Matthew Stevens
Journal of Organic Chemistry	320	Matthew Jeffreys
Molecular Pharmaceutics	321	Colin McKinlay
Natural Product Reports	322	Jack Sloane
Nature	322	Ryan Quiroz
Nature Chemistry	N/A	N/A
Nature Chemical Biology	323	Jessica Vargas
The New York Times	323	Melanie Huttner
The Onion	N/A	Melanie Huttner
Organic Letters	324	Jack Sloane
Organometallics	326	Matthew Stevens
PNAS	327	Melanie Huttner
Science	**MOOK**	Steven Ryckbosch
Science Translational Medicine	328	Jessica Vargas
Synlett	328	Stephen Ho
Synthesis	329	Stephen Ho
Tetrahedron	330	Samanta Capolicchio
Tetrahedron Letters	330	Katie Near

Next Due Date: Friday, January 15, 2016

Identify articles to abstract in the journals you have been assigned. Try to pick things that the group (or specific subgroups) would like to read or should be aware of. This does not need to be limited to chemistry! If you encounter interesting pieces of media elsewhere (The Economist being a recent example) don't hesitate to let the group know. If you are splitting a journal with another group member, talk with him/her to be sure you are not reviewing redundantly. If you are not able to cover your journal for some reason, get someone to cover it for you—as if it were your group job.

Create an Abstract

Abstract submissions are usually prepared using ChemDraw. The editors of the *Lit Review* strongly encourage the copying of graphical material from PDF files and wish to point out the following. Graphics stored in PDF files are typically of postscript or >300 dpi quality. When an image is copied into a ChemDraw document, a screen snapshot is taken, and the image is captured at the present screen resolution. If the PDF file is being viewed zoomed-in, this typically results in the transfer of a high quality image. If the PDF is being viewed zoomed-out, a low quality image typically results. Text can be copied from a PDF file and pasted as text using the text select or column select tool. Once pasted, this text behaves as if it were input from the keyboard.

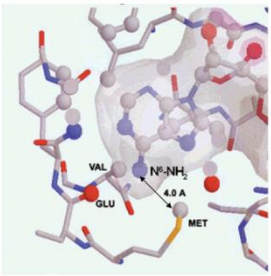
Include a brief textual summary of the article; an example of a completed abstract is shown below. The list of topics and subgroups on the right is useful to highlight which subgroups should pay attention to your abstract and roughly what kind of chemistry the article contains.

Please email the files to knear@stanford.edu. Late abstracts will be included in the Lit Review for the following month**. PCs please send .cdx and macs please send .pdf files.**

Citation: Abeyweera, T.P.; Rotenberg, S.A. *Biochemistry* **2007**, *46*, 2364-2370

Design and Characterization of a Traceable Protein Kinase C-alpha

Protein kinase CR (PKCR) is a critical component of pathways that govern cancer-related phenotypes such as invasion and proliferation. Proteins that serve as immediate substrates for PKCR offer potential targets for anticancer drug design. To identify specific substrates, a mutant of PKCR (M417A) was constructed at the ATP binding site such that it could bind a sterically large ATP analogue derivatized through the N6 amino group of adenosine (1c-32Pl-N6-phenyl-ATP). Because this analogue could be utilized by the mutant kinase but not by wild-type PKCR (or presumably other protein kinase) to phosphorylate peptide or protein substrates, 32P-labeled products were the direct result of the mutant PKCR.



bioorganic
asymmetric
methods
synthesis
mechanism
review
other

OM
Bryo
Apop
Hybrid
Gnid/ Kirk
Laulimalide
Drug Deliv.

Citation: Dictionary.com (search term = "mook")

For those of you who always wanted to know what it meant....

mook **Pronunciation Key** (mk) *n. Slang*

An insignificant or contemptible person.

methods
synthesis

DON'T BE A MOOK!

Lit Review MOOKS include those who:

- fail to submit their abstracts in a timely fashion (or at all), or
- claim there was nothing to abstract in *JACS*, *JOC*, *Org. Lett.*, etc.

Penalties for being a Lit Review MOOK:

- You will get last choice when it's time to pick new journals.

Citation: Dong, M.; *et al. Acc. Chem. Res.* **2015,** *48,* 2662.

Red-Shifting Azobenzene Photoswitches for in Vivo Use

A key feature of azo compounds designed to photoswitch in vivo is the wavelength of light required to cause the photoisomerization. To pass through tissue such as the human hand, wavelengths in the red, far-red, or ideally near infrared region are required. This Account describes our attempts to produce such azo compounds.

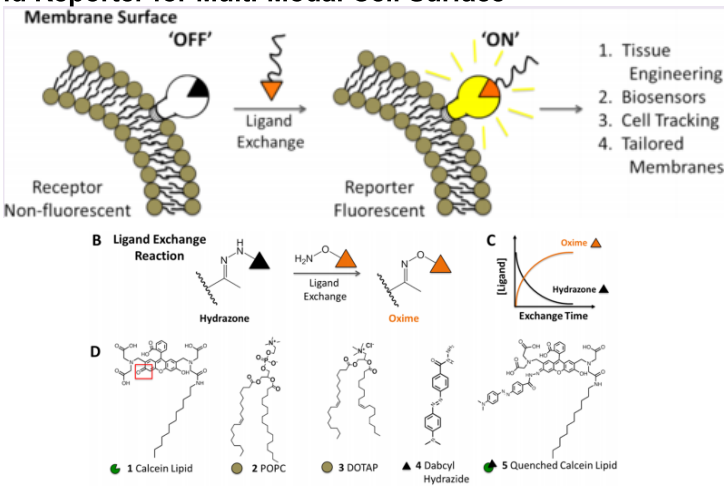
Introducing electron-donating or push/pull substituents at the para positions delocalizes the azobenzene chromophore and leads to long wavelength absorption but usually also lowers the thermal barrier to interconversion of the isomers. Fast thermal relaxation means it is difficult to produce a large steady state fraction of the cis isomer. Thus, specifically activating or inhibiting a biological process with the cis isomer would require an impractically bright light source.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Luo et al. *ACS Chem Biol*. **2015.** 2219-2226.

A Dual Receptor and Reporter for Multi-Modal Cell Surface Engineering



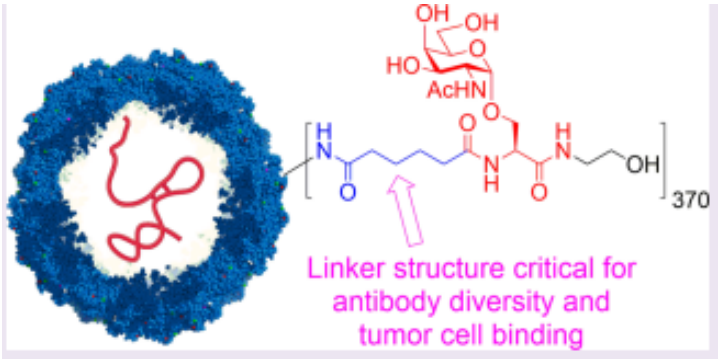
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Yin et al. *ACS Chem Biol*. **2015.** 2364-72

Significant Impact of Immunogen Design on the Diversity of Antibodies Generated by Carbohydrate-Based Anticancer Vaccine

"Development of an effective vaccine targeting tumor associated carbohydrate antigens (TACAs) is an appealing approach toward tumor immunotherapy."

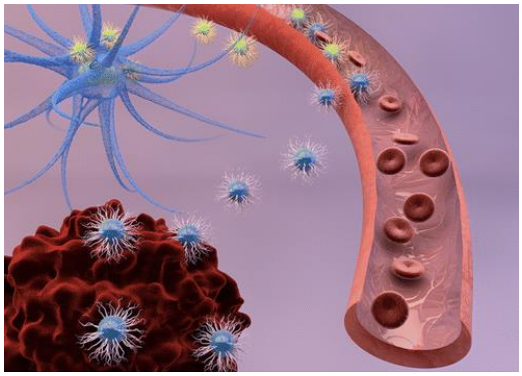


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Ali, I. et. al, *ACS Nano,* **2015**, 9 (10), 9470-9474

Penetrating the Blood–Brain Barrier: Promise of Novel Nanoplatforms and Delivery Vehicles

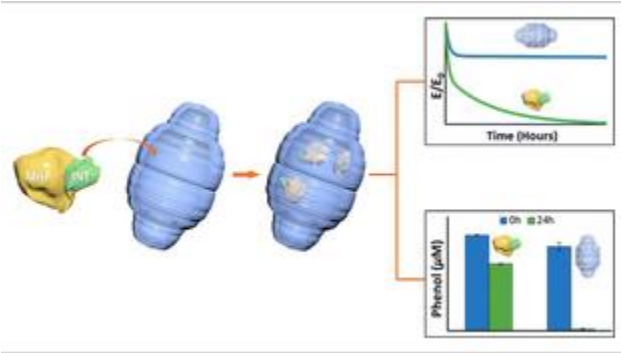


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Wang, M. et. al, *ACS Nano,* **2015**, ASAP

Vault Nanoparticles Packaged with Enzymes as an Efficient Pollutant Biodegradation Technology

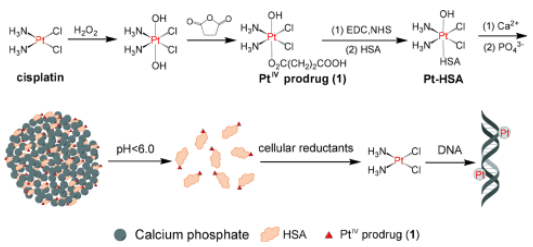


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Shi, *et al. Adv. Drug Deliv. Rev.* **2015,** 16547-16554.

Human Serum Albumin Conjugated Nanoparticles for pH and Redox-Responsive Delivery of a Prodrug of Cisplatin



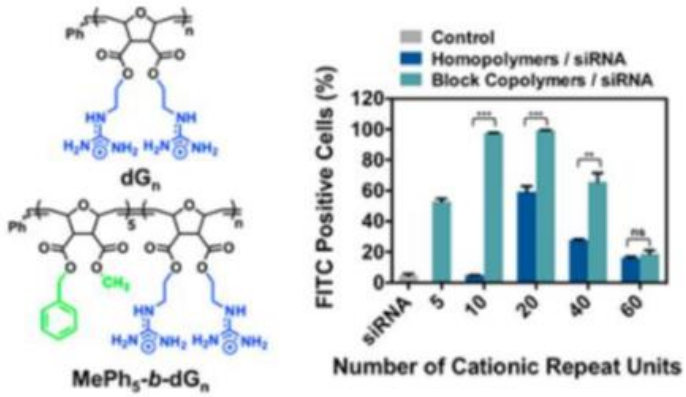
Platinum anticancer drugs are particularly in need of controlled drug delivery because of their severe side effects. Platinum(IV) agents are designed as prodrugs to reduce the side effects of platinum(II) drugs; however, premature reduction could limit the effect as a prodrug. In this work, a highly biocompatible, pH and redox dual-responsive delivery system is prepared by using hybrid nanoparticles of human serum albumin (HSA) and calcium phosphate (CaP) for the PtIV prodrug of cisplatin. This conjugate is very stable under extracellular conditions, so that it protects the platinum(IV) prodrug in HSA. Upon reaching the acidic and hypoxic environment, the platinum drug is released in its active form and is able to bind to the target DNA. The Pt[IV]CHSA/CaP hybrid inhibits the proliferation of various cancer cells more efficiently than cisplatin.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Biomacromolecules 2015, 16 (10), 3172–3179.

Development of Guanidinium-Rich Protein Mimics for Efficient siRNA Delivery into Human T Cells.

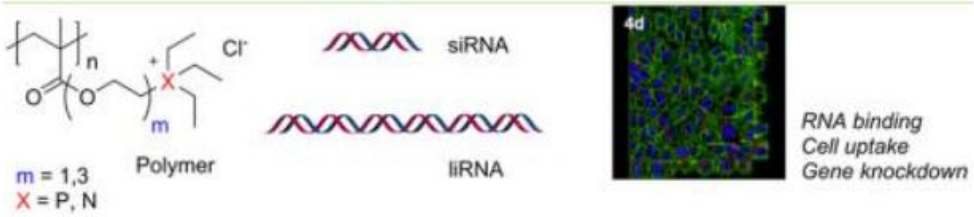


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Biomacromolecules 2015, 16 (11), 3480–3490.

Phosphonium Polymethacrylates for Short Interfering RNA Delivery: Effect of Polymer and RNA Structural Parameters on Polyplex Assembly and Gene Knockdown

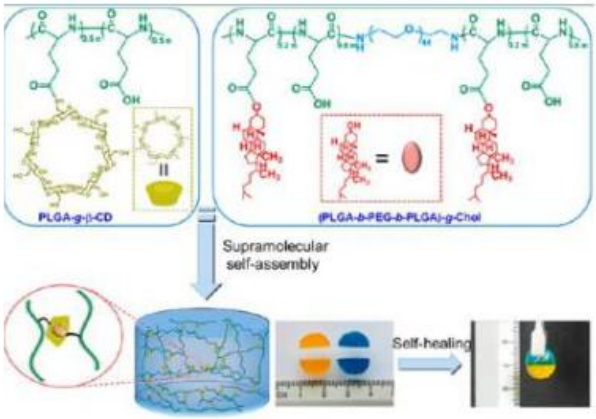


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Biomacromolecules 2015, 16 (11), 3508–3518.

Self-Healing Supramolecular Self-Assembled Hydrogels Based on Poly(l-Glutamic Acid).

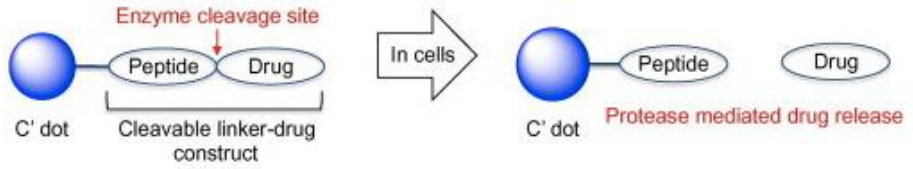


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Yoo, B. et al. *Bioorg. Med. Chem*., 23, (2015) 7119-7130

Ultrasmall dual-modality silica nanoparticle drug conjugates: Design, synthesis, and characterization

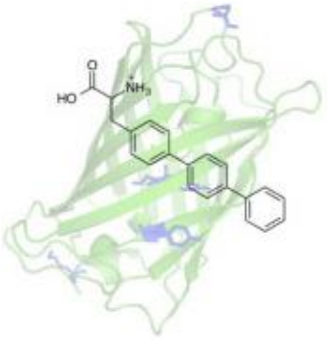


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Lamkowski, J. et al. *Bioorg. Med. Chem. Lett*., 25, (2015)5277-5280

Site-specific incorporation of a fluorescent terphenyl unnatural amino acid

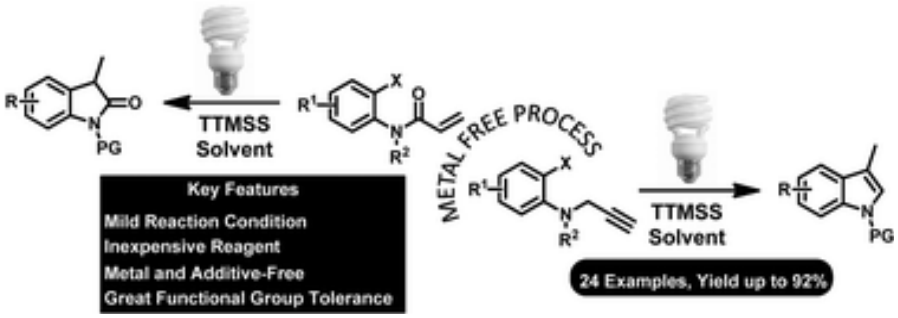


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Piva da Silva, G.; *et al*. *Chem. Commun.* **2015**, *51,* 15110.

Tris(trimethylsilyl)silane and visible-light irradiation: a new metal- and additive-free photochemical process for the synthesis of indoles and oxindoles

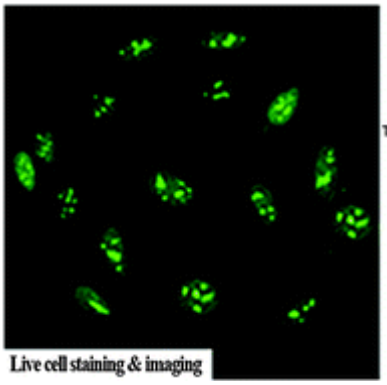


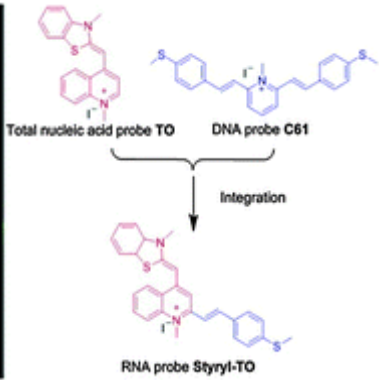
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: Lu, Y.-J.; *et al. Chem. Commun.* **2015**, *51,* 15241.

A molecular fluorescent dye for specific staining and imaging of RNA in live cells: a novel ligand integration from classical thiazole orange and styryl compounds





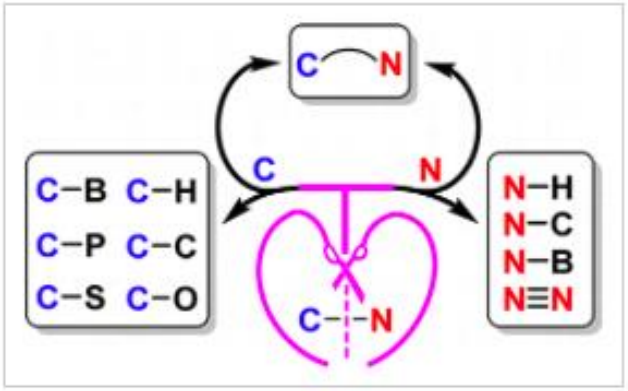
A new RNA-selective fluorescent dye integrated with a thiazole orange and a p-(methylthio)styryl moiety shows better nucleolus RNA staining and imaging performance in live cells than the commercial stains.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: Ouyang, K. et al. *Chem. Rev*. **2015**, *115*, 12045.

Transition-Metal-Catalyzed Cleavage of C-N Single Bonds



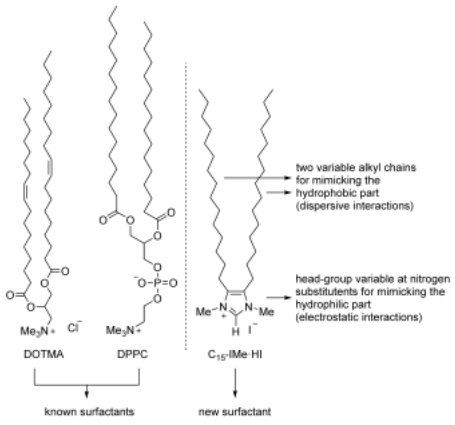
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Wang, *et al. Chem. Eur. J.* **2015,** *21*, 15123-15126

A Remarkably Simple Class of Imidazolium-Based Lipids and Their Biological Properties

A series of imidazolium salts bearing two alkyl chains in the backbone of the imidazolium core were synthesized, resembling the structure of lipids. Their antibacterial activity and cytotoxicity were evaluated using Gram-positive and Gram-negative bacteria and eukaryotic cell lines including tumor cells. It is shown that the length of alkyl chains in the backbone is vital for the antibiofilm activities of these lipid-mimicking components. In addition to their biological activity, their surface activity and their membrane interactions are shown by film balance and quartz crystal microbalance (QCM) measurements. The structure¨Cactivity relationship indicates that the distinctive chemical structure contributes considerably to the biological activities of this novel class of lipids.



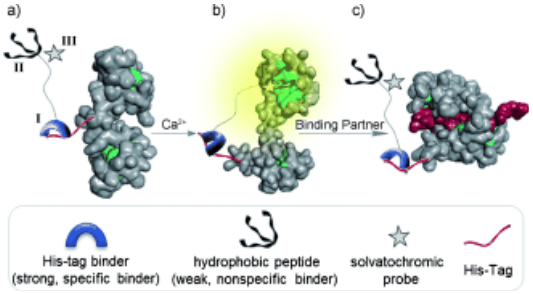
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Nissinkorn, *et al. Chem. Eur. J.* **2015,** 21, 15981-15987.

Sensing Protein Surfaces with Targeted Fluorescent Receptors

A methodology for creating fluorescent molecular sensors that respond to changes that occur on the surfaces of specific proteins is presented. This approach, which relies on binding cooperatively between a specific His-tag binder and a nonspecific protein-surface receptor, enabled the development of a sensor that can track changes on the surface of a His-tag-labeled calmodulin (His-CaM) upon interacting with metal ions, small molecules, and protein binding partners.



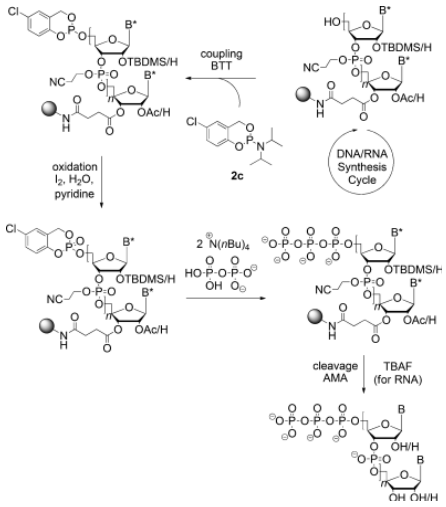
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Meier, *et al. Chem. Eur. J.* **2015,** 21, 16421-16426.

Effect of the Peptidic Scaffold in Copper(II) Coordination and the Redox Properties of Short Histidine-Containing Peptide

A fast, high-yielding and reliable method for the synthesis of DNA- and RNA 5'-triphosphates is reported. After synthesizing DNA or RNA oligonucleotides by automated oligonucleotide synthesis, 5-chloro-saligenyl-N,N-diisopropylphosphoramidite was coupled to the 5'-end. Oxidation of the formed 5¡ä-phosphite using the same oxidizing reagent used in standard oligonucleotide synthesis led to 5'-cycloSal-oligonucleotides. Reaction of the support-bonded 5'-cycloSal-oligonucleotide with pyrophosphate yielded the corresponding 5'-triphosphates. The 5'-triphosphorylated DNA and RNA oligonucleotides were obtained after cleavage from the support in high purity and excellent yields. The whole reaction sequence was adapted to be used on a standard oligonucleotide synthesizer.



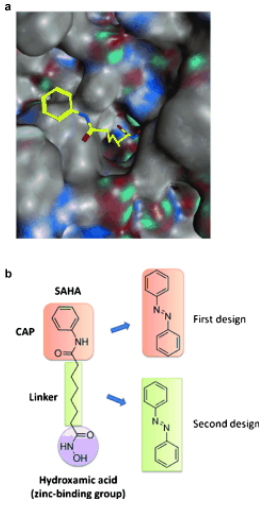
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Szymanski, *et al. Chem. Eur. J.* **2015,** 21, 16517-16524

Light-Controlled Histone Deacetylase (HDAC) Inhibitors: Towards Photopharmacological Chemotherapy

Cancer treatment suffers from limitations that have a major impact on the patient¡¯s quality of life and survival. In the case of chemotherapy, the systemic distribution of cytotoxic drugs reduces their efficacy and causes severe side effects due to nonselective toxicity. Photopharmacology allows a novel approach to address these problems because it employs external, local activation of chemotherapeutic agents by using light. The development of photoswitchable histone deacetylase (HDAC) inhibitors as potential antitumor agents is reported herein. Analogues of the clinically used chemotherapeutic agents vorinostat, panobinostat, and belinostat were designed with a photoswitchable azobenzene moiety incorporated into their structure. The most promising compound exhibits high inhibitory potency in the thermodynamically less stable cis form and a significantly lower activity for the trans form, both in terms of HDAC activity and proliferation of HeLa cells. This approach offers a clear prospect towards local photoactivation of HDAC inhibition to avoid severe side effects in chemotherapy.



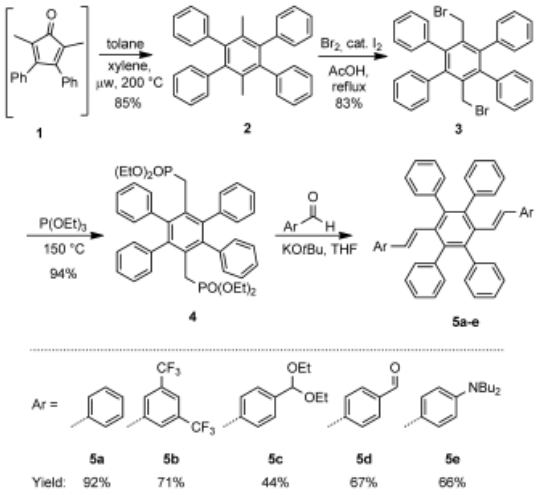
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Freudenberg, *et al.* *Chem. Eur. J.* **2015**, 21, 16749-16753.

New Aggregation-Induced Emitters: Tetraphenyldistyrylbenzenes

The paper described the synthesis and properties of five new aggregation-induced fluorophores and their photochemical conversion.

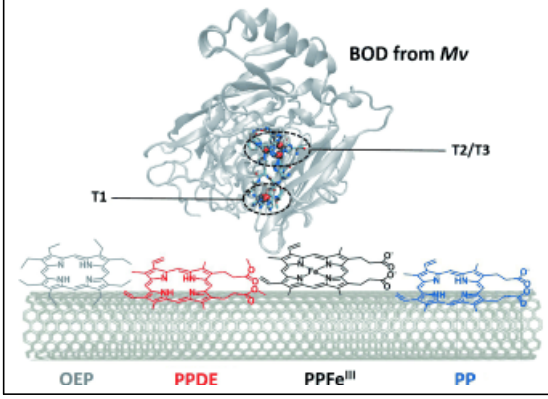


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Lalaoui, *et al.* *Chem. Eur. J.* **2015,** 21, 16868-16873.

Fully Oriented Bilirubin Oxidase on Porphyrin-Functionalized Carbon Nanotube Electrodes for Electrocatalytic Oxygen Reduction



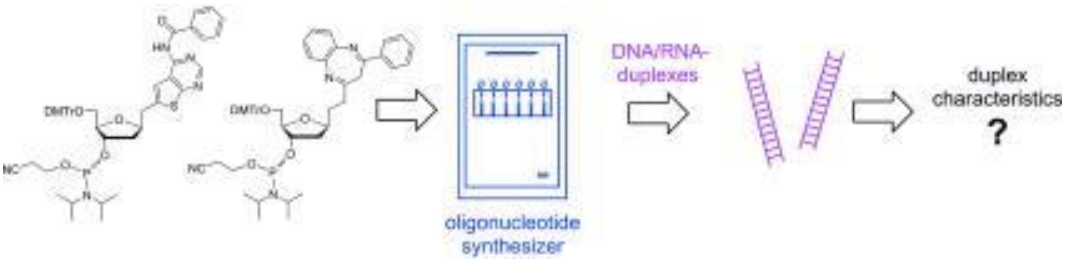
The efficient immobilization and orientation of bilirubin oxidase from Myrothecium verrucaria on multi-walled carbon nanotube electrodes by using ¦Ð-stacked porphyrins as a direct electron-transfer promoter is reported. By comparing the use of different types of porphyrin, the rational effect of the porphyrin structure on both the immobilization and orientation of the enzyme is demonstrated. The best performances were obtained for protoporphyrin-IX, which is the natural precursor of bilirubin. These electrodes exhibit full orientation of the enzyme, as confirmed by the observable non-catalytic redox system corresponding to the T1 copper center associated with pure Nernstian electrocatalytic behavior with high catalytic currents of almost 5mA/cm2 at neutral pH.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Höfler, K. et al. *Eur. J. Org. Chem.* **2015**, *2015*, 6841-6849.

Synthesis of Homo-C-Nucleoside Phosphoramidites and Their Site-Specific Incorporation into Oligonucleotides

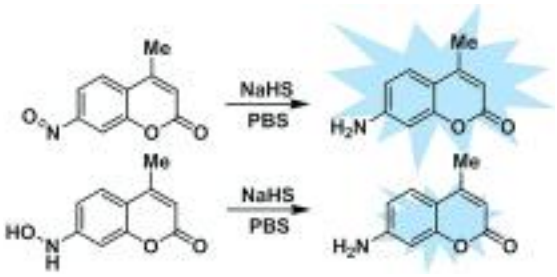


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Renault, K. et al. *Eur. J. Org. Chem.* **2015**, **DOI: 10.1002/ejoc.201501140**.

Fast-Responsive Nitroso-Based Turn-On Probe for Hydrogen Sulfide



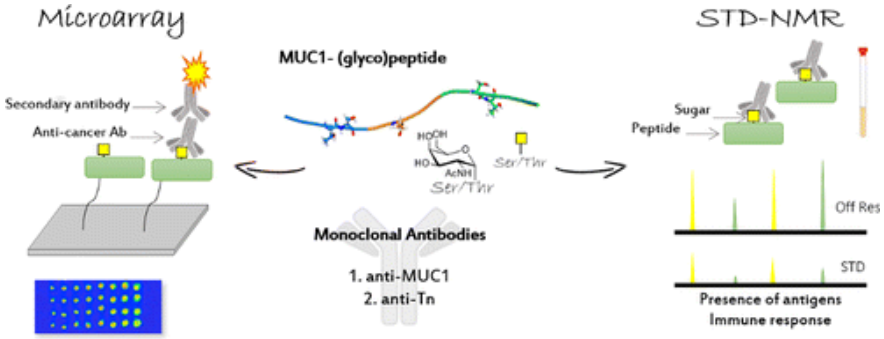
Very few different reducible chemical functionalities have been used in the design of reduction-based fluorescent probes. Reported herein is a nitroso-based fluorescence turn-on probe that displays an almost instantaneous and strong fluorescence response towards hydrogen sulfide.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Helena Coelho, Filipa Marcelo, et al.
Journal of the American Chemical Society **2015**, 137 (39), 12438-12441

The Quest for Anticancer Vaccines: Deciphering the Fine Epitope Specificity of Cancer-Related Monoclonal Antibodies by Combining Microarray Screening and Saturation Transfer Difference NMR

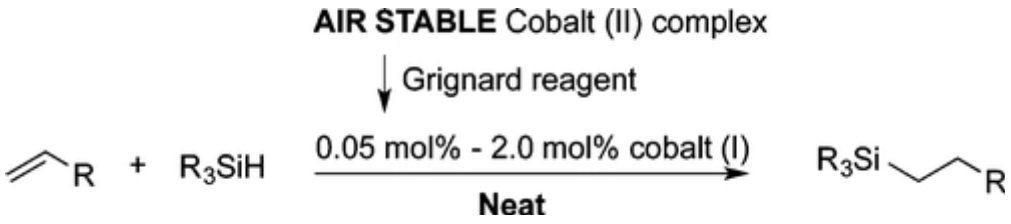


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Chi Chen, Patrick L. Holland, et al.
Journal of the American Chemical Society, **2015**, 137 (41), 13244-13247

Rapid, Regioconvergent, Solvent-Free Alkene Hydrosilylation with a Cobalt Catalyst

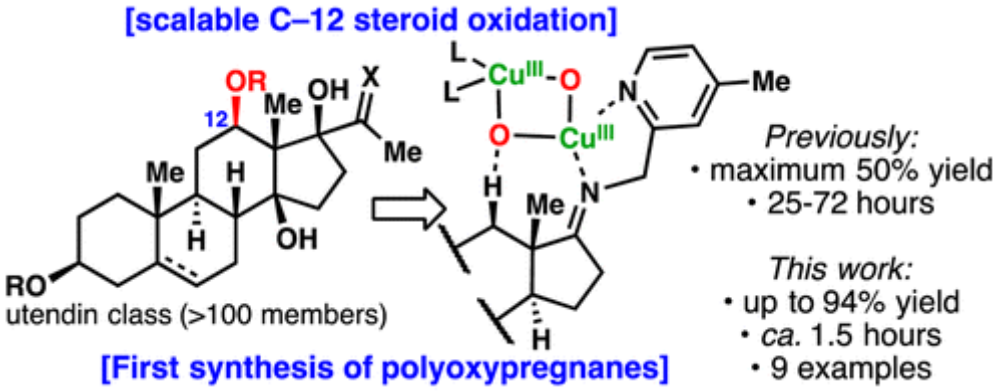


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Yi Yang See, Aaron T. Herrmann, Yoshinori Aihara, and Phil S. Baran
Journal of the American Chemical Society, **2015**, 137 (43), 13776-13779

Scalable C–H Oxidation with Copper: Synthesis of Polyoxypregnanes

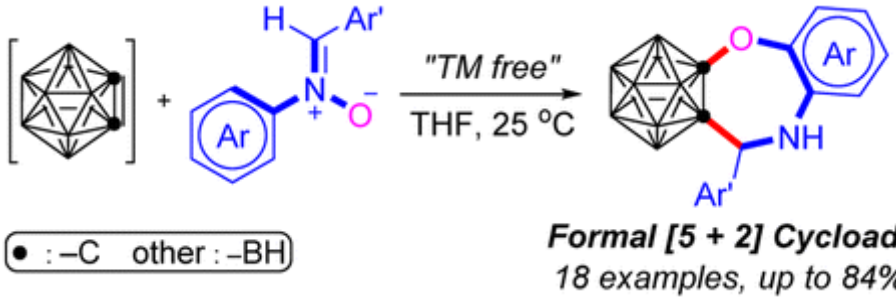


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Da Zhao, Jiji Zhang, and Zuowei Xie
Journal of the American Chemical Society, **2015**, 137 (43), 13938-13942

An Unprecedented Formal [5 + 2] Cycloaddition of Nitrones with o-Carboryne via Tandem [3 + 2] Cycloaddition/Oxygen Migration/Aromatization Sequence

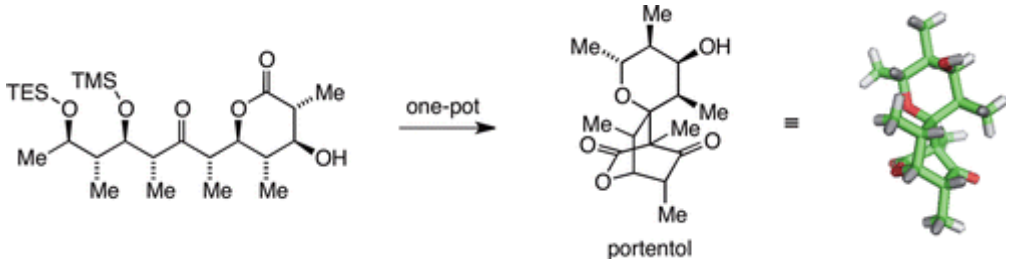


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Bichu Cheng and Dirk Trauner
Journal of the American Chemical Society, **2015**, 137 (43), 13800-13803

A Highly Convergent and Biomimetic Total Synthesis of Portentol

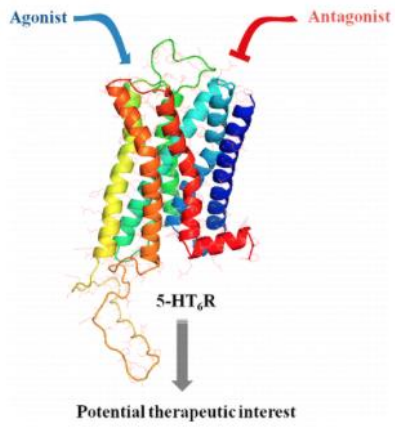


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Karila, D.; *et al. J. Med. Chem.* **2015**, 58 (20), 7901-7912

Therapeutic Potential of 5-HT$_6$ Receptor Agonists

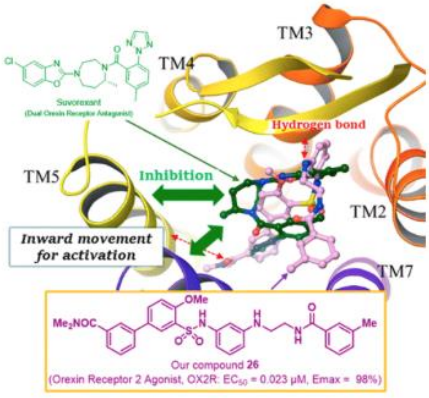


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Nagahara, T.; *et al. J. Med. Chem.* **2015**, 58 (20), 7931-7937

Design and Synthesis of Non-Peptide, Selective Orexin Receptor 2 Agonists

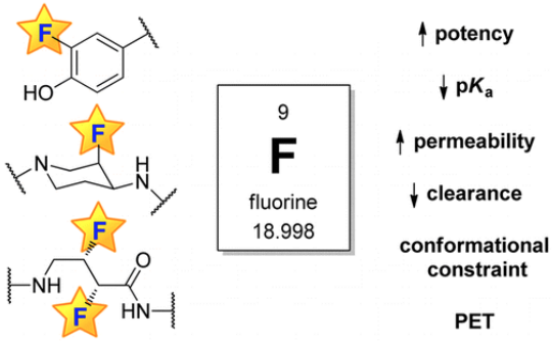


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Gillis, E.; *et al. J. Med. Chem.* **2015**, 58 (21), 8315-8359

Applications of Fluorine in Medicinal Chemistry

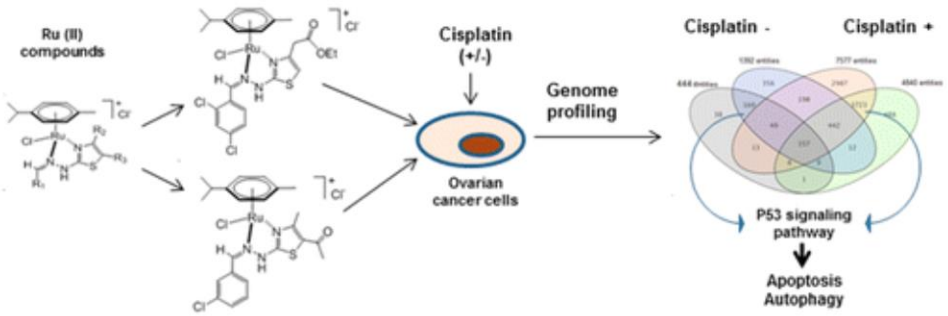


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Grozav, A.; *et al. J. Med. Chem.* **2015**, 58 (21),8475-8490

Synthesis, Anticancer Activity, and Genome Profiling of Thiazolo Arene Ruthenium Complexes

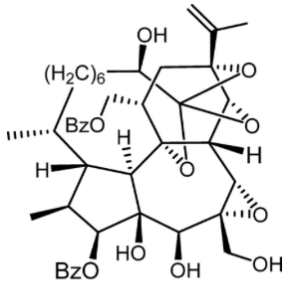


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Lai, W.; *et al. J. Med. Chem.* **2015**, 58 (21), 8638-8646

Gnidimacrin, a Potent Anti-HIV Diterpene, Can Eliminate Latent HIV-1 Ex Vivo by Activation of Protein Kinase C Œ



Gnidimacrin

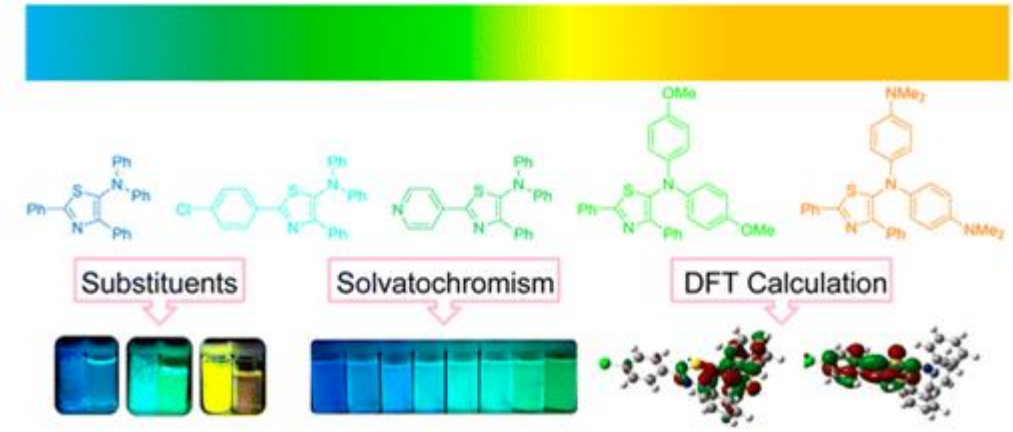
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo

Hybrid
Drug Deliv.
Prostratin

Citation: Yamaguchi, K.; *et al. Journal of Organic Chemistry,* **2015**, 80 (21) 10742-10756.

5-N-Arylaminothiazoles as Highly Twisted Fluorescent Monocyclic Heterocycles: Synthesis and Characterization

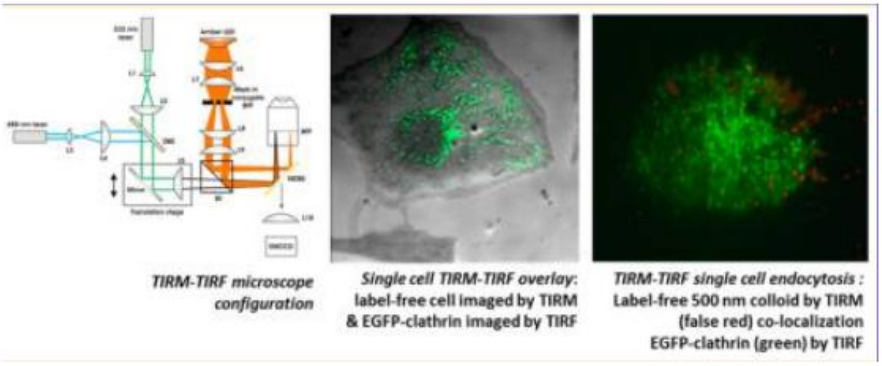


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Mol. Pharmaceutics 2015, 12 (10), 3518–3526.

Live Imaging of Cellular Internalization of Single Colloidal Particle by Combined Label-Free and Fluorescence Total Internal Reflection Microscopy

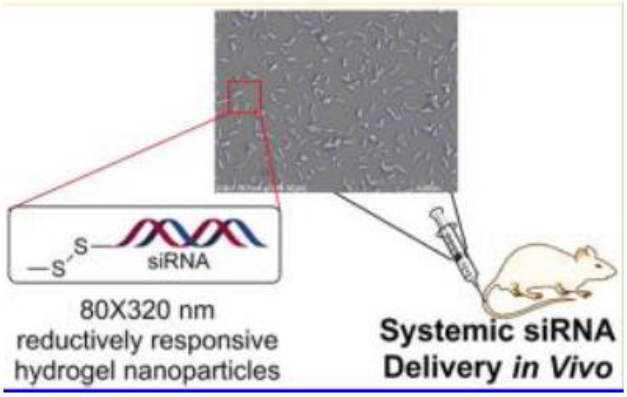


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Mol. Pharmaceutics 2015, 12 (10), 3518–3526.

Reductively Responsive Hydrogel Nanoparticles with Uniform Size, Shape, and Tunable Composition for Systemic siRNA Delivery in Vivo.

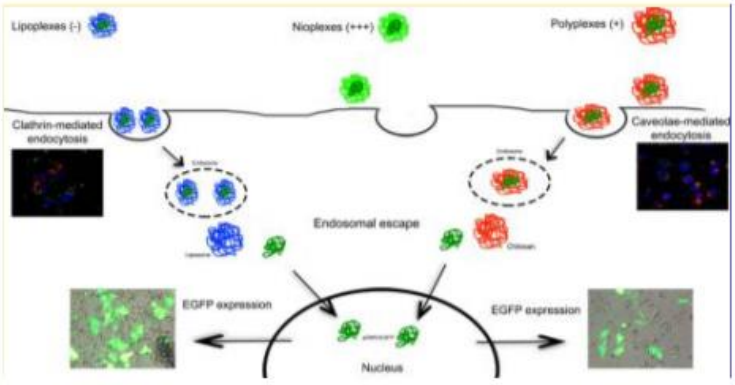


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Mol. Pharmaceutics 2015, 12 (11), 4056–4066.

New Insights into Gene Delivery to Human Neuronal Precursor NT2 Cells: A Comparative Study between Lipoplexes, Nioplexes, and Polyplexes.

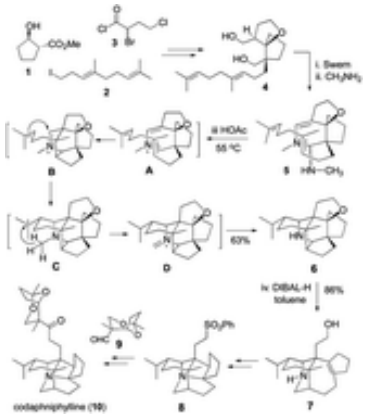


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Long, R. et al. *Nat. Prod. Rep.* **2015**, 32, 1584-1601

Direct construction of vicinal all-carbon quaternary stereocenters in natural product synthesis

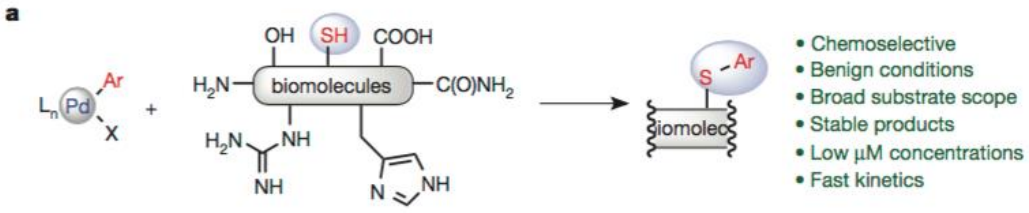


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Buchwald, S. L. et al. *Nature*. **2015**, *526*, 687.

Organometallic palladium reagents for cysteine bioconjugation

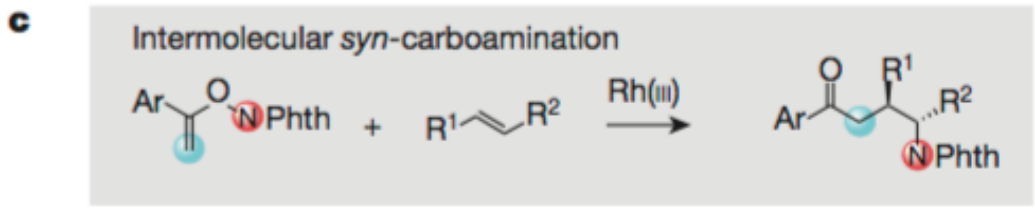


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Piou, T.; Rovis, T. *Nature*. **2015**, *527*, 86.

Rhodium-catalysed *syn*-carboamination of alkenes via a transient directing group



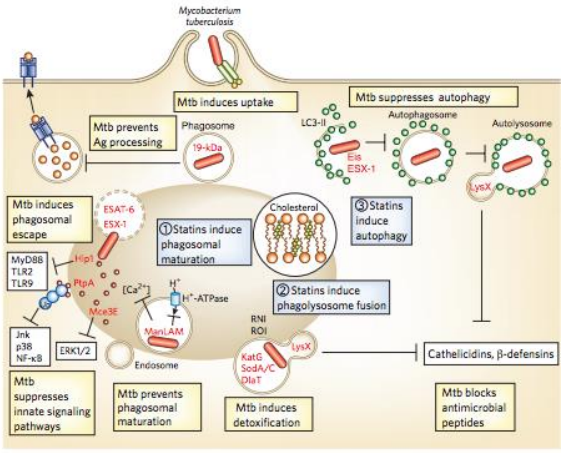
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: NATURE CHEMICAL BIOLOGY | VOL 11 | OCTOBER 2015 |748

Host-directed drug therapy for tuberculosis

"Chemical compounds designed to enhance understanding of host-pathogen interaction together with next-generation 'smart drugs' will rationally drive the discovery of promising new host-directed targets against pathogens including Mycobacterium tuberculosis, the causative agent of tuberculosis."



bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: http://www.nytimes.com/2015/10/27/health/costs-for-dementia-care-far-exceeding-other-diseases-study-finds.html

Costs for Dementia Care Far Exceeding Other Diseases, Study Finds

The average total cost of care for a person with dementia over five years was $287,038. For a patient who died of heart disease it was $175,136. For a cancer patient it was $173,383. Medicare paid almost the same amount for patients with each of those diseases — close to $100,000 — but dementia patients had many more expenses that were not covered.

On average, the out-of-pocket cost for a patient with dementia was $61,522 — more than 80 percent higher than the cost for someone with heart disease or cancer. The reason is that dementia patients need caregivers to watch them, help with basic activities like eating, dressing and bathing, and provide constant supervision to make sure they do not wander off or harm themselves. None of those costs were covered by Medicare.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: http://www.nytimes.com/2015/11/06/science/fda-approves-genvoya-a-new-one-pill-treatment-for-hiv.html

F.D.A. Approves Genvoya, a New One-Pill Treatment for H.I.V

The new pill, called Genvoya, from Gilead Sciences , joins several other one-pill treatments, including Atripla, Complera, Triumeq and Stribild. It contains the same four drugs as Stribild, but with the tenofovir disoproxil fumarate replaced by tenofovir alafenamide. The new form of the inhibitor, Gilead said, enters cells where H.I.V. replicates more efficiently, resulting in 91 percent less tenofovir in the bloodstream. That should make the pill less likely to cause kidney damage or loss of bone density, which have become major problems among people with H.I.V. who survive into old age.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: http://www.nytimes.com/2015/10/27/health/drug-enforcement-vs-treatment-issue-hits-un.html

Drug Enforcement vs. AIDS Treatment Issue Hits U.N.

The spread of the virus through needles may be the least-talked-about but most intractable aspect of the AIDS epidemic. In North America and Western Europe, H.I.V. is mostly transmitted through gay sex. In Africa, the focus of most Western aid, it is spread through heterosexual sex.

But in many countries — notably Russia and Eastern Europe, and across swaths of Asia where the opium poppy flourishes, the greatest H.I.V. risk is injected heroin.

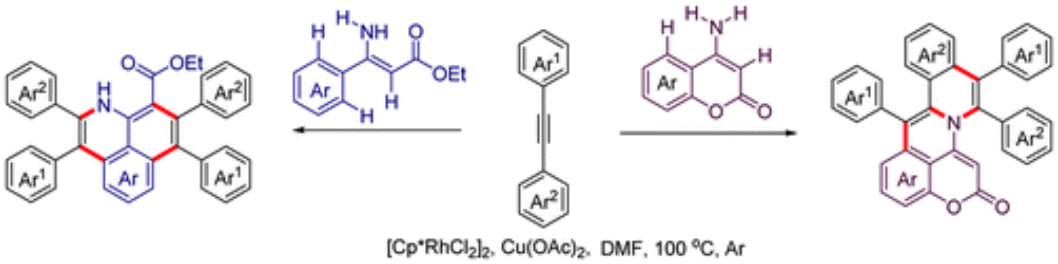
“Our position is very clear,” said Michel Sidibé, the executive director of Unaids, the U.N. agency fighting AIDS. “Of the 12 million people who inject drugs, 1.7 million are infected. We need to take these people out of the shadows and into services, or we will never control the epidemic.”

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Peng, S., et al. *Org. Lett.* **2015**, 17, 5032-5035

Synthesis of Polyheteroaromatic Compounds via Rhodium-Catalyzed Mutliple C-H Bond Activation and Oxidative Annulation

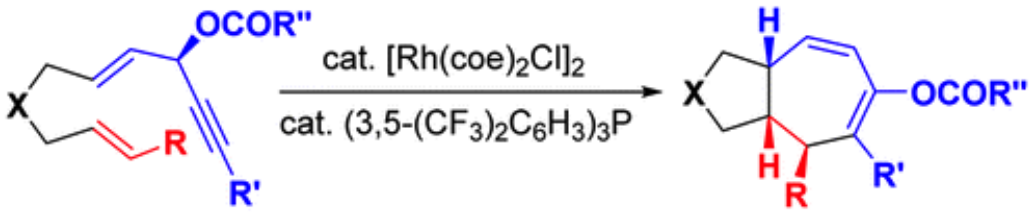


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Shu, X., et al. *Org. Lett.* **2015**, 17, 5128-5131

Rhodium-Catalyzed Stereoselective Intramolecular [5+2] Cycloaddition of 3-Acyloxy 1,4-Enyne and Alkene

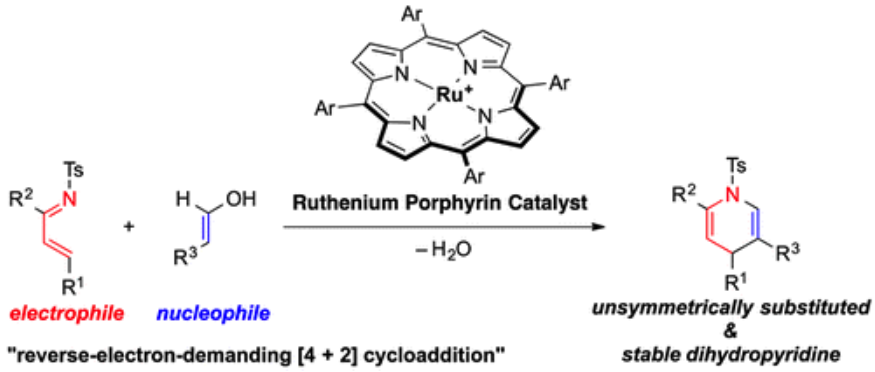


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Maeda, K., et al. *Org. Lett.* **2015**, 17, 5284-5287

Ruthenium-Porphyrin-Catalyzed [4+2] Cycloaddition of a,b-Unsaturated Imines and Aldehydes

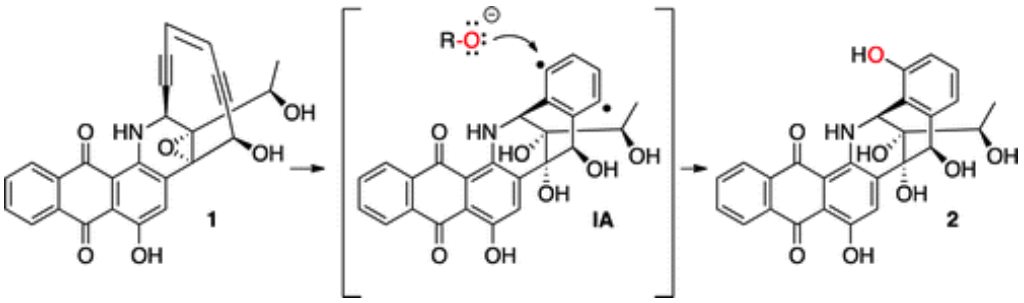


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Williams, D. E., et al. *Org. Lett.* **2015**, 17, 5304-5307

Unciaphenol, an Oxygenated Analogue of the Bergman Cyclization Product of Uncialamycin Exhibits Anti-HIV Activity

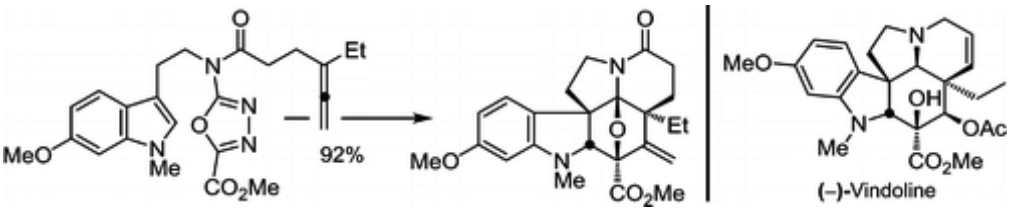


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Sears, J. E., et al. *Org. Lett.* **2015**, 17, 5460-5463

Total Synthesis of (-)-Vindoline and (+)-4-epi-Vindoline Based on a 1,3,4-Oxadiazole Tandem Intramolecular [4+2]/[3+2] Cycloaddition Cascade Initiated by an Allene Dienophile

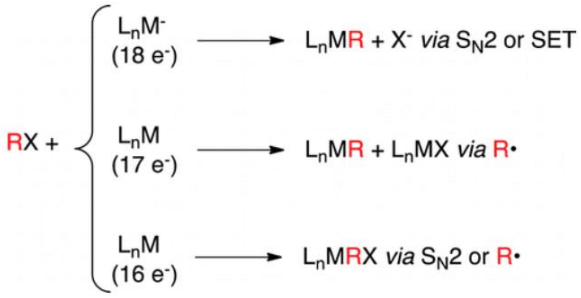


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Labinger, J. *Organometallics* **2015**, 34 (20), 4784-4795

Tutorial on Oxidative Addition

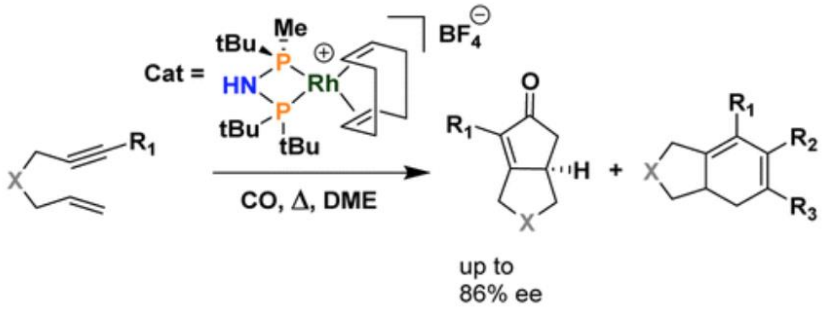


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Cristobal-Lecina, E. M.; *et al*. *Organometallics* **2015**, 34 (20), 4626-4631

Rhodium-Catalyzed Pauson-Khand Reaction Using a Small-Bite-Angle *P*-Stereogenic C_1-Diphosphine Ligand



up to
86% ee

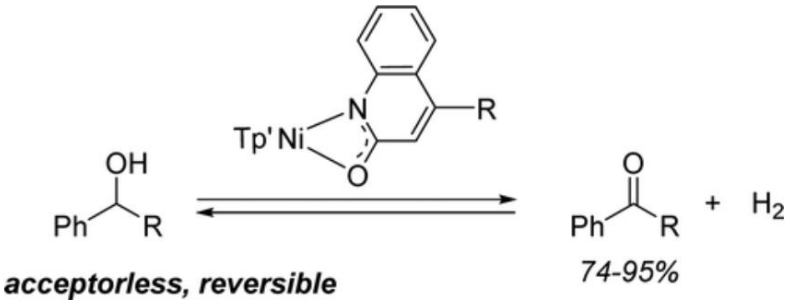
bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo

Hybrid
Drug Deliv.
Prostratin

Citation: Chakraborty, S.; *et al*. *Organometallics* **2015**, 34 (21), 5203-5206

A Single Nickel Catalyst for the Acceptorless Dehydrogenation of Alcohols and Hydrogenation of Carbonyl Compounds



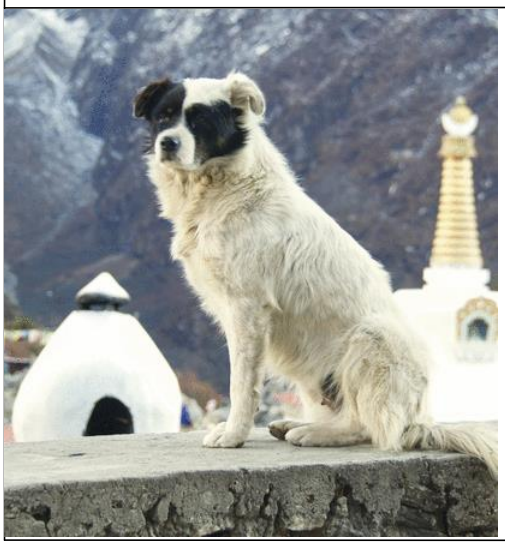
acceptorless, reversible

74-95%

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Shannon, L. M.; *et al. Proc. Natl. Acad. Sci. U.S.A.* **2015,** *112,* 13639.



Genetic structure in village dogs reveals a Central Asian domestication origin

Dogs were the first domesticated species, originating at least 15,000 y ago from Eurasian gray wolves. Dogs today consist primarily of two specialized groups-a diverse set of nearly 400 pure breeds and a far more populous group of free-ranging animals adapted to a human commensal lifestyle. Refining the timing of dog domestication could yield substantial insights into the process by which dogs became domesticated and the wolf and human population(s) involved.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Fowler, A.; Montagnes, B. P. *Proc. Natl. Acad. Sci. U.S.A.* **2015,** *112,* 13800.

College football, elections, and false-positive results in observational research

In a recent study, Healy et al. find that college football games influence voting behavior. Victories within 2 weeks of an election seem to increase the success of the incumbent party in presidential, senatorial, and gubernatorial elections in the home county of the team. This study has received significant media coverage [for one illustrative example, see a 2012 article published by Slate entitled “Will Ohio State’s football team decide who wins the White House?”] and has been influential among scholars, receiving ~130 citations in 5 years. Several factors contribute to the impact of this particular study. First, the result is surprising and memorable. Second, the results are substantively important for several reasons. Our results suggest that voters are more competent than previously thought. Because voting behavior seems to be influenced by the economy, natural disasters, and the performance of elected officials but not by football games, voters may be reasonably capable of distinguishing irrelevant factors from those for which the government can influence, prepare for, or respond.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Handley, I. M.; *et al. Proc. Natl. Acad. Sci. U.S.A.* **2015**, *112*, 13201.

Quality of evidence revealing subtle gender biases in science is in the eye of the beholder

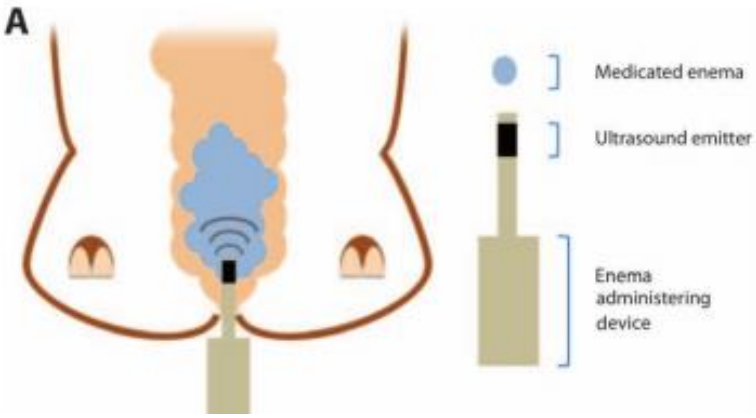
Results across experiments showed that men evaluate gender-bias research less favorably than women, and, of concern, this gender difference was especially prominent among STEM faculty. These results suggest a relative reluctance among men, especially faculty men within STEM, to accept evidence of gender biases in STEM. This finding is problematic because broadening the participation of underrepresented people in STEM, including women, necessarily requires a widespread willingness (particularly by those in the majority) to acknowledge that bias exists before transformation is possible.

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Anderson, Langer, et al. Sci Trns Med. **2015** Vol 7 Issue 310 310ra168

Ultrasound-mediated gastrointestinal drug delivery

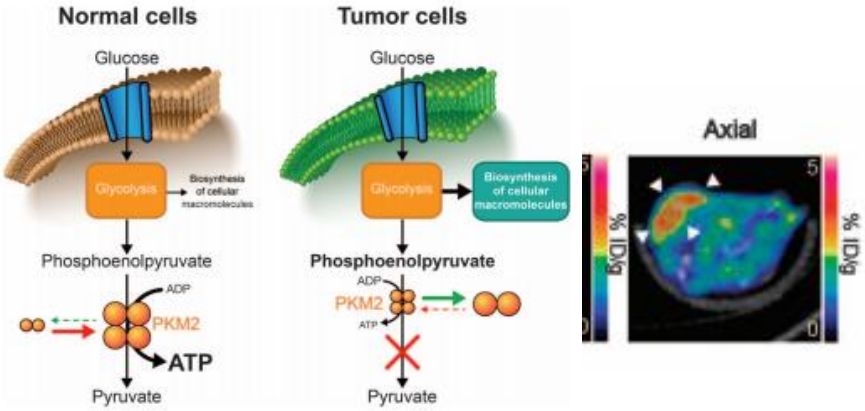


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: James, Rao, Gambhir, et al. Sci Trns Med. **2015** Vol 7 Issue 310 310ra169

PET imaging of tumor glycolysis downstream of hexokinase through noninvasive measurement of pyruvate kinase M2

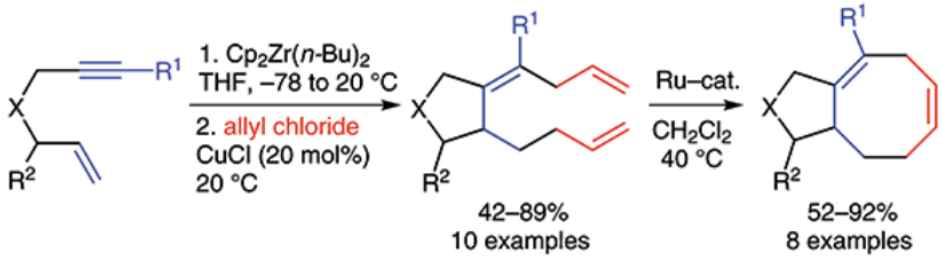


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **Kotora, M. et. al. Synlett 2015, 26, A–E**

Bisallylation of Zirconacyclopentenes and Ring-Closing Metathesis: A Route to Eight-Membered-Ring Compounds

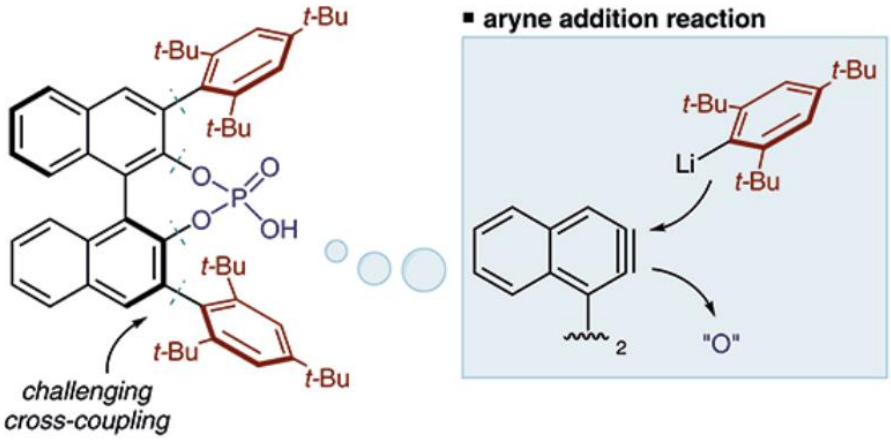


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **List, B. et. al. Synlett 2015, 26, A–D**

An Approach to Highly Hindered BINOL Phosphates

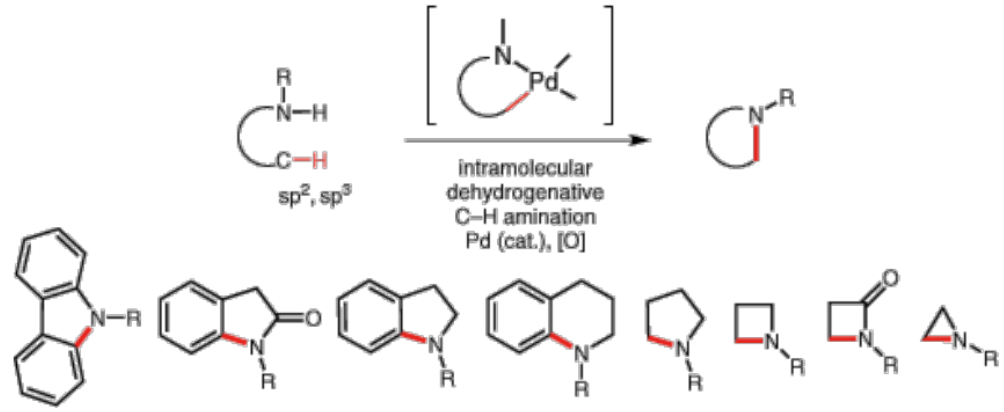


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **William A. Nack, Gong Chen. Synlett 2015, 26, 2505–2511**

Syntheses of Nitrogen-Containing Heterocycles via Palladium-Catalyzed Intramolecular Dehydrogenative C–H Amination

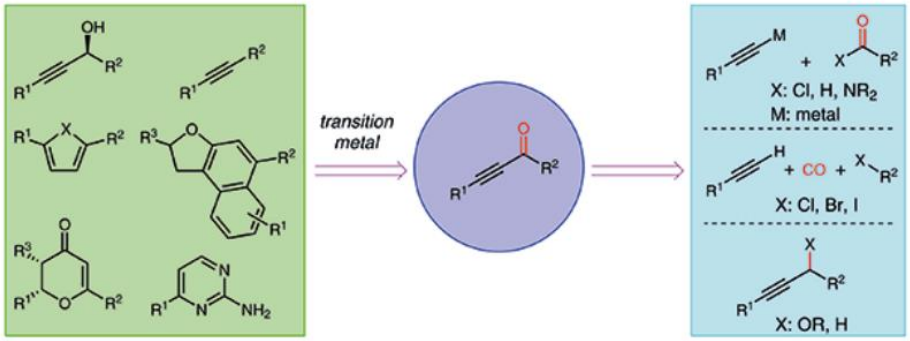


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: **Synthesis 2015. Just Accepted. Rachel E. Whittakera, Alpay Dermencib, Guangbin Dong**

Synthesis of Ynones and Recent Application in Transition-Metal-Catalyzed Reactions

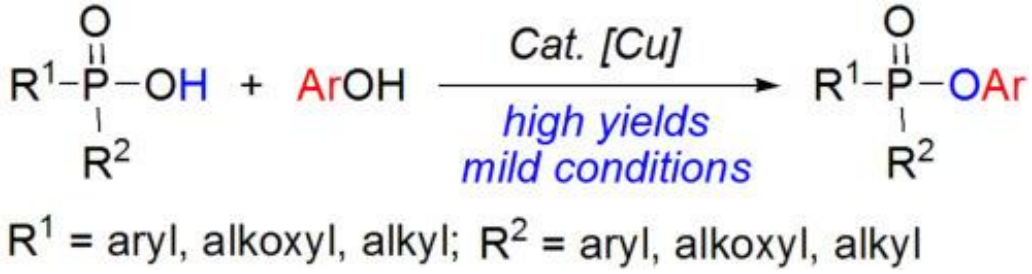


bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Xiong, B. et al. *Tetrahedron* **2015**, *71*, 9293-9298.

Copper-catalyzed direct esterification of P(O)-OH compounds with phenols



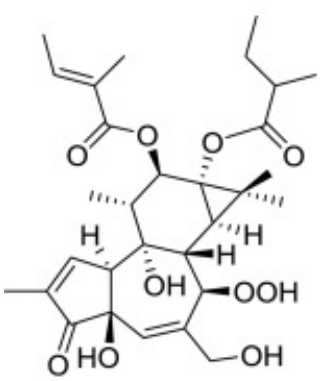
R^1 = aryl, alkoxyl, alkyl; R^2 = aryl, alkoxyl, alkyl

bioorganic
methods
synthesis
mechanism
review
other

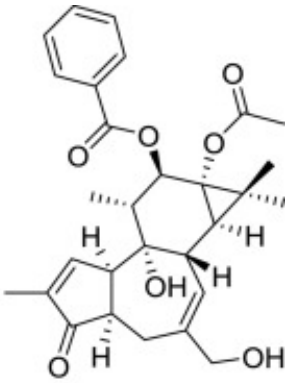
OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Zhang, D. et al. *Tetrahedron* **2015**, doi:10.1016/j.tet.2015.10.070.

Cytotoxic tigliane-type diterpenoids from *Croton tiglium*



1

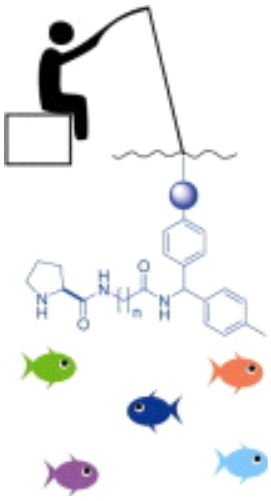


11

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDO
Hybrid
Drug Deliv.
Prostratin

Citation: Machuca, E.; *et al. Tet. Lett.* **2015**, *56,* 6047.



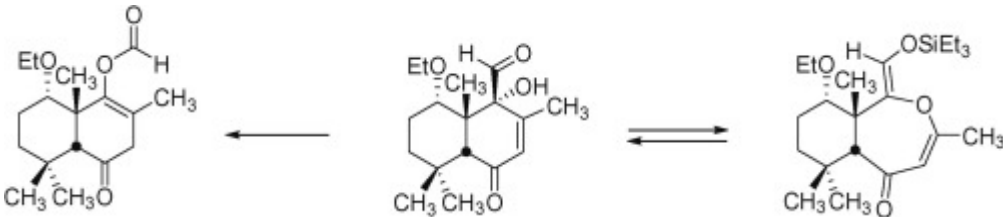
Synthesis and evaluation of (S)-proline-containing dipeptidic organocatalysts bound to MBHA resin in asymmetric aldol reactions

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin

Citation: Kucera, R.; *et al. Tet. Lett.* **2015**, *56,* 6171.

Facile rearrangements of a vinylogous a-hydroxy-ß-dicarbonyl substrate involving an apparent oxirane C–C bond scission



The authors report the first example of the rearrangement of a vinylogous a-Hydroxy-ß-dicarbonyl an a-acyloxy carbonyl. An attempt to access the protected form of the putative oxirane intermediate revealed an additional rearrangement pathway that was available to the substrate. Oxirane C–C bond cleavage mechanisms were invoked to explain both isomerizations

bioorganic
methods
synthesis
mechanism
review
other

OM
Bryo
DDOs
Hybrid
Drug Deliv.
Prostratin